

## PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2000-308130

(43)Date of publication of application : 02.11.2000

(51)Int.Cl.

H04Q 7/38  
H04L 12/28  
H04L 12/50  
H04M 1/663  
H04M 3/42  
H04M 11/00

(21)Application number : 11-109828

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(22)Date of filing : 16.04.1999

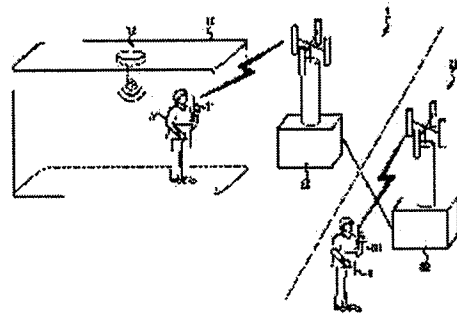
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## (54) COMMUNICATION SYSTEM

(57)Abstract:

**PROBLEM TO BE SOLVED:** To improve the environment of using communication terminal equipment in a use limited area by limiting only the communication function of the communication terminal equipment to trouble the surrounding in the use limited area of the communication terminal equipment and automatically transmitting a message containing information such as a reason why communication is disabled and the destination of transfer to a service center on the side of a caller as well.

**SOLUTION:** A CPU executes main processing for executing a control sequence as a portable telephone 11 and executes mode monitoring processing for monitoring whether use limit information transmitted from an information transmitter 12 installed in a portable telephone use limited area 10 is received or not and when the use limit information is not received, an ordinary communication operating mode is set but when the use limit information is received, a use limited operating mode is set for limiting the communication function according to the contents set in that use limit information so as to execute call originating or terminating processing corresponding to respective operating modes.



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**CLAIMS**

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[Claim(s)]

[Claim 1]A communications system which an information sender is installed in a use limited area characterized by comprising the following which restricts use of a communication terminal device, and this information sender turns to said communication terminal device information containing a message etc. which show a place of a notice for which a message cannot be received, and this area, and transmits.

A reception means which receives information to which said communication terminal device was transmitted from said information sender within said use limited area.

A discriminating means which distinguishes \*\*\*\*\* [ a current position / in said use limited area ] based on existence of reception of information transmitted from said information sender in this reception means, A communication control means which transmits information received by said reception means to a communication terminal device of this dispatch origin while forbidding this mail arrival operation, when it is distinguished by this discriminating means that a current position is in a use limited area and there is arrival from a communication terminal device of dispatch origin besides this use limited area.

[Claim 2]A communications system which an information sender is installed in a use limited area characterized by comprising the following which restricts use of a communication terminal device, and this information sender turns to said communication terminal device information containing a message peculiar to area etc. which notify use restrictions of a communication terminal device, and transmits.

A reception means which receives information to which said communication terminal device was transmitted from said information sender within said use limited area.

A discriminating means which distinguishes \*\*\*\*\* [ a current position / in said use limited area ] based on existence of reception of information transmitted from said information sender in this reception means, A communication control means which notifies information received by said reception means by a self informing means while repealing this dispatch operation, when it is distinguished by this discriminating means that a current position is in a use limited area and dispatch is directed.

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[Translation done.]

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**DETAILED DESCRIPTION**

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[Detailed Description of the Invention]

[0001]

[Field of the Invention]This invention relates to the communications system which restricts mail arrival dispatch operation of a communication terminal device in the use limited area to which use of communication terminal devices, such as a cellular phone, was restricted.

[0002]

[Description of the Prior Art]Recently, the base transceiver station which makes the communication terminal device usable has also come to be installed in all life area with the rapid spread of portable communication terminal devices, such as a cellular phone. However, there is also many area which fault generates by use of a communication terminal device, and it is necessary to make a user recognize especially that it is a limited area which restricts use of a communication terminal device in public area (for example, inside of a train and a hospital, etc.).

[0003]Although there are also methods, such as sticking the sticker which specified that it was a use limited area of a communication terminal device as a method of making a user recognizing use restrictions of a communication terminal device within such a limited area, or depending on a user's manners, The communication technology which restricts use of a communication terminal device within a limited area is also devised.

[0004]Within this limited area, mail arrival operation to a communication terminal device and dispatch operation from a communication terminal device are made impossible by installing the sender which sends jamming in a limited area as such conventional communication technology, for example.

[0005]

[Problem(s) to be Solved by the Invention]However, when depending for it being a limited area for which use of the above-mentioned conventional communication terminal device is restricted on a user's manners as a method which a user is made to recognize, There was troublesomeness of operation in which a user turns off the power supply of a communication terminal device himself, switches a ringer tone to a vibrator function, and switches to a telephone answering function before going into a limited area, and there was a problem that troublesome arrival could not be cut off. To dispatch, it could not restrict at all, and a user is able to use it intentionally and effective management was not completed to restriction of dispatch operation.

[0006]The sender which sends jamming is installed in the above-mentioned conventional limited area, Within a limited area, since dispatch of the absence message from a communication terminal device and dispatch of e-mail would also be restricted if it is in the communication technology which makes impossible mail arrival operation to a communication terminal device, and dispatch operation from a communication terminal device, there was a problem of being inconvenient to a user. In this case, all the needed information from the outside to the communication terminal device user in a limited area and the fault of the reason of that communication disabling not being known but repeating useless dispatch operation in the addresser side since it becomes impossible are generated.

[0007]In the conventional housesitting service, since the reason the user by whom needed information was done is absence mode is not notified to the addresser side, the same fault is generated.

[0008]The technical problem of this invention within the use limited area of a communication

terminal device, It is restricting only the communication function of the communication terminal device which becomes troublesome to the circumference, and transmitting automatically the reason which cannot communicate to the addresser side, either, and a message including the information on the destination etc. to a service center, and improving the operating environment of the communication terminal device within a use limited area.

[0009]

[Means for Solving the Problem]The invention according to claim 1 is provided with the following. Install an information sender in a use limited area which restricts use of a communication terminal device, and this information sender, A reception means which is a communications system which turns to said communication terminal device information containing a message etc. which show a place of a notice for which a message cannot be received, and this area, and transmits, and receives information to which said communication terminal device was transmitted from said information sender within said use limited area.

A discriminating means which distinguishes \*\*\*\*\* [ a current position / in said use limited area ] based on existence of reception of information transmitted from said information sender in this reception means.

A communication control means which transmits information received by said reception means to a communication terminal device of this dispatch origin while forbidding this mail arrival operation, when it is distinguished by this discriminating means that a current position is in a use limited area and there is arrival from a communication terminal device of dispatch origin besides this use limited area.

[0010]According to this invention according to claim 1, install an information sender in a use limited area which restricts use of a communication terminal device, and this information sender, Are a communications system which turns to said communication terminal device information containing a message etc. which show a place of a notice for which a message cannot be received, and this area, and transmits, and said communication terminal device, A reception means receives information transmitted from said information sender within said use limited area, A discriminating means based on existence of reception of information transmitted from said information sender in this reception means, Distinguish \*\*\*\*\* [ a current position / in said use limited area ], and it is distinguished by this discriminating means that a current position is in a use limited area, When there is arrival from a communication terminal device of dispatch origin besides this use limited area, a communication control means transmits information received by said reception means to a communication terminal device of this dispatch origin, while forbidding this mail arrival operation.

[0011]Therefore, while being able to restrict automatically arrival from the outside to a communication terminal device which exists in a use limited area, a user of a communication terminal device of a sending agency is received, While being able to report automatically that a communication terminal device of a user who received a message exists in a use limited area and being able to restrict use of a communication terminal device in a use limited area, an operation burden of users, such as use restriction setting operation, is also mitigable.

[0012]The invention according to claim 2 is provided with the following.

Install an information sender in a use limited area which restricts use of a communication terminal device, and this information sender, A reception means which is a communications system which turns to said communication terminal device information containing a message peculiar to area etc. which notify use restrictions of a communication terminal device, and transmits, and receives information to which said communication terminal device was transmitted from said information sender within said use limited area.

A discriminating means which distinguishes \*\*\*\*\* [ a current position / in said use limited area ] based on existence of reception of information transmitted from said information sender in this reception means.

A communication control means which notifies information received by said reception means by a self informing means while repealing this dispatch operation, when it is distinguished by this discriminating means that a current position is in a use limited area and dispatch is directed.

[0013]According to this invention according to claim 2, install an information sender in a use limited area which restricts use of a communication terminal device, and this information sender, Are a communications system which turns to said communication terminal device information containing a message peculiar to area etc. which notify use restrictions of a communication terminal device, and transmits, and said communication terminal device, A reception means receives information transmitted from said information sender within said use limited area, A discriminating means based on existence of reception of information transmitted from said information sender in this reception means, When \*\*\*\*\* [ a current position / in said use limited area ] is distinguished, it is distinguished by this discriminating means that a current position is in a use limited area and dispatch is directed, a communication control means notifies information received by said reception means by a self informing means, while repealing this dispatch operation.

[0014]Therefore, while being able to restrict automatically a calling request from a user to a communication terminal device which exists in a use limited area, a user of this communication terminal device is received, While being able to report automatically that a communication terminal device exists in a use limited area and being able to raise manners of a communication terminal device user in a use limited area, an operation burden of users, such as use restriction setting operation, is also mitigable.

[0015]

[Embodiment of the Invention]Hereafter, with reference to figures, an embodiment of the invention is described in detail. Drawing 1 – drawing 9 are the figures showing the 1 embodiment of the communications system in connection with the cellular phone which applied this invention.

[0016]First, composition is explained. Drawing 1 is a figure showing the system configuration of the communications system 1 in this embodiment. The cellular-phone use limited area 10 in which, as for the communications system 1, the user A of the cellular phone 11 existed, and the information sender 12 was installed in this drawing 1. The base station 20 of a cellular phone and the user B of the cellular phone 31 exist, and it is \*\* constituted with the addresser area 30 in which the base station 20 and the base station 32 connected with the cable were installed.

[0017]The composition of the communications system 1 shown in this drawing 1 is illustrated in order to simplify explanation, and neither the number of users of the cellular phone which exists in each area 10 and 30 of the communications system 1, nor the installed number in particular of the base stations 20 and 32 is restricted by application of this invention.

[0018]The information sender 12 installed in the cellular-phone use limited area 10, As shown in the block diagram shown in drawing 2, it is constituted by CPU121, RAM122, the communication control part 123, the transmission and reception section 124, and the antenna 125, and GPS part 126 and the input part 127 which are shown with a dashed line block as an option can be connected.

[0019]CPU(Central Processing Unit) 121, Perform information calling processing (refer to drawing 4) mentioned later, read the use limitation information (refer to drawing 5) containing the limitation information which restricts the communication function of the cellular phone 11 beforehand memorized in RAM122, the message for dispatch, etc., and it outputs to the communication control part 123, The communication control part 123 is controlled and use limitation information is made to send from the transmission and reception section 124 and the antenna 125 to the cellular phone 11 in the cellular-phone use limited area 10.

[0020]RAM(Random Access Memory) 122 memorizes the use limitation information (refer to drawing 5) containing the communication function limitation information which restricts the communication function to the cellular phone 11 in the cellular-phone use limited area 10, the message for dispatch, etc. The contents of the use limitation information memorized in this RAM122 can be changed using the information inputted from the input part 127 connected as an option.

[0021]The communication control part 123 is controlled by CPU121, changes into predetermined signal aspect the use limitation information inputted from CPU121, and is made to send it from the transmission and reception section 124 to the cellular phone 11 in the cellular-phone use limited area 10 with the antenna 125. The communication control part 123 has a function which

restores information from the signal transmission to which it was received by the transmission and reception section 123, and restored, and is outputted to CPU121.

[0022]The transmission and reception section 124 modulates signal transmission including the use limitation information inputted from the communication control part 123 to the carrier signal of the radio frequency band corresponding to the cellular phone 11, and sends it from the antenna 125. The transmission and reception section 124 restores to the carrier signal of the radio frequency band corresponding to the cellular phone 11 received from the antenna 125, and has a function which outputs the signal transmission to which it restored to the communication control part 123.

[0023]The GPS (Global Positioning System) section 126 connected as an option, The GPS satellite signals sent from two or more GPS Satellites are received, and the currency information (for example, longitude, latitude, altitude data) which computed and computed the self current position from these received GPS satellite signals is outputted to CPU121. CPU121 outputs the position information inputted from GPS part 126 to RAM122, and carries out additional memory of the position information at the limitation information memorized by RAM122.

[0024]The input part 127 connected as an option is connected when changing the contents of the use limitation information memorized in the above-mentioned RAM122. The input part 127 is provided with a keyboard and outputs the data concerning the use limitation information inputted by the user's key operation, etc. to CPU121. CPU121 rewrites the use limitation information memorized by RAM122 with the data concerning the limitation information inputted from the input part 127.

[0025]The composition of the cellular phone 11 which exists in the cellular-phone use limited area 10 of drawing 1, As shown in the block diagram shown in drawing 3, With CPU101, RAM102, the communication control part 103, the transmission and reception section 104, the antenna 105, the display control part 106, the indicator 107, the input part 108, the dataport 109, the voice input/output part 110, the speaker 111, the microphone 112, the memory storage 113, and the storage 114. It is constituted.

[0026]CPU101 (it corresponds to claims 1 and 2, without the discriminating means of a statement and a communication control means.), Read the various control programs for cellular phones memorized in the memory storage 113 according to the various indication signals (various commands) inputted from the input part 108, and it develops to RAM102, The control sequence which controls each part in the cellular phone 11 by the developed control program, and realizes the various function as a cellular phone is performed, A call setup demand etc. are outputted to the communication control part 103 by the call request and the partner point telephone number inputted by off-hook operation of the input part 123, Perform a communications control sequence, output the information etc. which show the communicating state under the keystroke information and telephone call to the display control part 106, and it is made to display on the indicator 107, While controlling to be able to talk over the telephone with the microphone 112 and the speaker 111 of the voice input/output part 110, based on the communication control information inputted from the communication control part 103, the communications control sequence which starts a telephone call between the cellular phones of the call origination point is performed by the communication control part 103.

[0027]The main process (refer to drawing 6) later mentioned in order that CPU101 may perform the control sequence as a cellular phone is performed, The mode monitoring process (refer to drawing 7) which supervises the existence of reception of the use limitation information transmitted from the information sender 12 installed in the cellular-phone use limited area 10 is performed, If use limitation information is not received, it is set as the usual communication operation mode and use limitation information is received, the use limiting action mode in which a communication function is restricted according to the contents set as the use limitation information will be set up, and calling processing (refer to drawing 8) according to each operational mode and mail arrival processing (refer to drawing 9) will be performed.

[0028]RAM102 has a memory area which develops the various control programs executed by CPU101, a memory area which memorizes the use limitation information inputted from CPU101, etc.

[0029]By the usual calling processing which dispatch operation and mail arrival operation are

controlled by the calling processing and mail arrival processing which are performed by CPU101, and is performed by CPU101, the communication control part 103. Call setup demand inputted from CPU101 and the usual dispatch operation which carries out call origination to a partner point telephone number with the antenna 105 from the transmission and reception section 104 according to a partner point telephone number are performed. In the calling processing with use restrictions performed by CPU101. Dispatch operation which sends the use restriction message for dispatch (voice data or alphabetic data) inputted from CPU101 to the cellular phone and service center of the partner point beforehand registered by the antenna 105 from the transmission and reception section 104 is performed.

[0030]The communication control part 103 (it corresponds to a communication control means given in claims 1 and 2.), In the usual mail arrival processing performed by CPU101. For example, if the arrival from the cellular phone 31 of the user B who exists in the addresser area 30 of drawing 1 is received via the antenna 105 and the transmission and reception section 104, In the mail arrival processing with use restrictions which notifies the arrival to CPU101, and performs the usual mail arrival operation, and is performed by CPU101. For example, if the arrival from the cellular phone 31 of the user B who exists in the addresser area 30 of drawing 1 is received via the antenna 105 and the transmission and reception section 104, After notifying the arrival to CPU101, dispatch operation which sends the trust use restriction message (voice data or alphabetic data) inputted from CPU101 to the cellular phone 31 with the antenna 105 from the transmission and reception section 104 is performed.

[0031]The transmission and reception section 104 (it corresponds to a reception means given in claims 1 and 2.), Modulate signal transmission including the use limitation information inputted from the communication control part 103 to the carrier signal of the radio frequency band corresponding to the cellular phone 31, and it sends to the base station 20 from the antenna 105, It restores to the carrier signal of the radio frequency band corresponding to the cellular phone 31 received from the base station 20 with the antenna 105, and has a function which outputs the signal transmission to which it restored to the communication control part 103.

[0032]The display control part 106 is controlled by CPU101, and displays on the indicator 107 the various display information concerning the dispatch operation or mail arrival operation inputted from CPU101. The indicator 107 is constituted by the liquid crystal display panel, and displays the various display information concerning the dispatch operation or mail arrival operation inputted from the display control part 106.

[0033]The input part 108 is provided with a power key, an off-hook key, a ten key, a various function key, etc., and outputs the indication signal according to the key operation by a user to CPU101. The input part 108 outputs to CPU101 the indication signal inputted from the information processors (a personal computer, portable information machines and equipment, etc.) which the exterior which is connected with the dataport 109 and connected to the dataport 109 does not illustrate.

[0034]It is connected with the information processors (a personal computer, portable information machines and equipment, etc.) which the exterior does not illustrate, and the dataport 109 outputs the indication signal inputted from an information processor to the input part 108 while being connected with the input part 108.

[0035]The voice input/output part 110 decrypts the receiver signal inputted from CPU101 to an audio signal, drives the speaker 111, reproduces a receiver voice, codes the audio signal inputted from the microphone 112, and outputs it to CPU101 as a transmitted signal.

[0036]A program, data, etc. have the storage 114 memorized beforehand, and the memory storage 113 comprises that this storage 114 is magnetic, an optical recording medium, or semiconductor memory. This storage 114 is the thing provided in the memory storage 113 fixed, or a thing with which it equips enabling free attachment and detachment, To this storage 114, the various above-mentioned control programs, a cellular-phone control processing program, a mode monitoring process program, a calling processing program, a mail arrival processing program, the data processed by each program, etc. are memorized.

[0037]Next, operation of this embodiment is explained. First, the information calling processing performed by the information sender 12 installed in the cellular-phone use limited area 10 is explained based on the flow chart shown in drawing 4.

[0038]In drawing 4, CPU121 reads the use limitation information memorized in RAM124 (Step S1). The read use limitation information is outputted to the communication control part 123, and use limitation information is made to send to the cellular phone 11 which controls the communication control part 123 and exists in the cellular-phone use limited area 10 from the transmission and reception section 124 and the antenna 125 (Step S2). Subsequently, CPU101 waits for the "Wait" time set up beforehand (Step S3), returns to Step S1, and carries out repeat execution of the calling processing of use limitation information.

[0039]An example of the setting detail of use limitation information sent by this information sender 12 is shown in drawing 5. The message ID 201 for identifying the setting detail set up in the use limitation information 200 concerned in the use limitation information 200 shown in drawing 5. The message 202 for mail arrival which transmits to a partner point telephone at the time of the arrival at the time of the use limit mode of a cellular phone, The position information 203 set up when GPS part 126 of the above-mentioned option is connected, Alphabetic data or voice data 204 corresponding to the message 202 for mail arrival, The incoming call notice (/being and making) 205 which sets up the existence of an incoming call notice at the time of the arrival at the time of the use limit mode of a cellular phone, The ringer tone kind 206 which sets up the ringer tone kind at the time of the arrival at the time of the use limit mode of a cellular phone, with the housesitting sound recording (/it carries out — don't carry out) 207 which sets up the existence of housesitting sound recording at the time of the arrival at the time of the use limit mode of a cellular phone. with the originating restriction (/it carries out — don't carry out) 208 which sets up the existence of originating restriction at the time of the arrival at the time of the use limit mode of a cellular phone. The message 209 for dispatch of which the user A of the cellular phone 11 concerned is notified at the time of the dispatch at the time of the use limit mode of a cellular phone, whether the power supply of the cellular phone concerned is compulsorily turned off at the time of the alphabetic data or the voice data 210 corresponding to the message 209 for dispatch, and the use limit mode of a cellular phone with the compulsive Power OFF (/it carries out — don't carry out) 211 to set up. Setting out is made possible.

[0040]The setting detail of the use limitation information 200 shown in drawing 5. The user who manages the information sender 12 connects the input part 127 of an option to the information sender 12. The setting detail can be changed arbitrarily and the use limited condition of a cellular phone can be arbitrarily set up according to the places (for example, the inside of a train, a hospital, etc.) where the cellular-phone use limited area 10 was set up.

[0041]Therefore, the cellular phone 11 of the user A who exists in the cellular-phone use limited area 10 of drawing 1 is received. If the use limitation information 200 of a setting detail like drawing 5 is transmitted from the information sender 12, while the received use limitation information is memorized in RAM102, with the cellular phone 11, the use limit mode based on the setting detail will be set up.

[0042]Next, the main process performed in the cellular phone 11 of the user A who exists in the cellular-phone use limited area 10 is explained based on the flow chart shown in drawing 6.

[0043]In drawing 6, CPU101 in the cellular phone 11 performs the mode monitoring process which supervises the operational mode first set up based on the use limitation information 200 grade transmitted from the information sender 12 (Step P1). The details of this mode monitoring process are explained based on the flow chart shown in drawing 7.

[0044]In drawing 7, CPU101 checks first the existence of reception of the use limitation information transmitted from the information sender 12 by the incoming information into which it is inputted from the communication control part 103 (Step P11). When there is no reception of use limitation information, it shifts to Step P18, the operational mode memorized to RAM102 is set as the "normal mode" which performs the usual calling processing and mail arrival processing, and this mode monitoring process is finished.

[0045]When reception of use limitation information is checked by the incoming information inputted from the communication control part 103, CPU101 (Step P12). The message ID set as the use limitation information inputted from the communication control part 103 checks whether it is the same as that of the message ID set as the use limitation information memorized by reception of the last use limitation information in RAM102 (Step P13).

[0046]The use limitation information received last time is memorized by RAM102, and if the



message ID of the set-up last time is the same as that of the message ID set as the use limitation information received this time, Use limitation information [ finishing / the memory to RAM102 / CPU101 ] shifts to Step P17, without rewriting, sets the operational mode memorized to RAM102 as "use limit mode", and ends this mode monitoring process.

[0047]The last message ID set as the use limitation information received last time memorized by RAM102, When the message ID set as the use limitation information received this time differs, or when the use limitation information received last time to RAM102 is not memorized, CPU101, The message ID and the setting detail which were set as the use limitation information received this time are newly written in in RAM102 (Step P14). subsequently, CPU101, if the setting detail of the newly written-in use limitation information 200 "the compulsive Power OFF (/it carries out -- it does not carry out) 211" is checked (Step P15) and it is set up for "not carrying out compulsion Power OFF", It shifts to Step P17, the operational mode memorized to RAM102 is set as "use limit mode", and this mode monitoring process is ended.

[0048]If set up for "carrying out compulsion Power OFF", CPU101 will perform processing which turns off the power supply of the cellular phone 11 concerned compulsorily (Step P16), and will end this mode monitoring process.

[0049]After ending the above mode monitoring process, CPU101 shifts to Step P2 of drawing 6, and distinguishes whether dispatch directions were inputted by the key operation in the input part 108 by the user A. If dispatch directions are not inputted, if CPU101 distinguishes whether incoming information was further inputted from the communication control part 103 (Step P3) and there is no input of incoming information, it will return to the mode monitoring process of Step P1.

[0050]If dispatch directions are inputted, CPU101 will shift to Step P4 and will perform calling processing. The details of this calling processing are explained based on the flow chart shown in drawing 8.

[0051]In drawing 8, first, the operational mode memorized in RAM102 is "use limit mode", and CPU101 checks whether the contents of a calling request are "data communication mode" (Step P41). Even if operational mode is "use limit mode", when the contents of a calling request are "data communication mode", and when operational mode is the normal mode, CPU101, It shifts to Step P46 and the usual dispatch operation is performed, call origination is carried out to the partner point telephone in which the calling request was carried out by the communication control part 103, and the usual telephone call operation is performed.

[0052]When operational mode is set as "use limit mode" and the contents of a calling request are not "data communication mode", CPU101, the setting detail of the use limitation information 200 memorized by RAM102 is read (Step P42), and it is distinguished whether it is set up for "carrying out originating restriction" with reference to setting out of the originating restriction (/it carries out -- don't carry out) 208 (Step P43).

[0053]When set up for "not carrying out originating restriction", CPU101 shifts to Step P46, performs the usual dispatch operation, and call origination of it is carried out to the partner point telephone in which the calling request was carried out by the communication control part 103, and it performs the usual telephone call operation. When set up for "carrying out originating restriction", CPU101, The alphabetic data or the voice data 210 set up corresponding to the message 209 for dispatch set as the use limitation information memorized by RAM102 is read, It displays that it is [ dispatch use ] under restriction on the indicator 107 by the display control part 106, or voice response is carried out from the speaker 111 by the voice input/output part 110, and the user A is made to notify of it (Step P44).

[0054]for example, the case where the information sender 12 is installed in the train under movement, and the user A has got on in this train -- as the message for dispatch -- " -- it is in a train now. Since dispatch becomes other visitors' trouble, please withhold. " etc. is notified and the user A is notified of it being originating restriction area.

[0055]Subsequently, CPU101 checks whether manual release directions of use restrictions have been inputted by the key operation in the input part 108 by the user A (Step P45), If there is no manual release operation, this calling processing will be finished, if manual release operation occurs, restriction of dispatch operation will be canceled, call origination is carried out to the partner point telephone in which the calling request was carried out by the communication

control part 103, and the usual telephone call operation is performed (Step P46).

[0056]The above calling processing is ended, and CPU101 will perform mail arrival processing, if incoming information is received from the communication control part 103 in Step P3 of drawing 6 (Step P5). The details of this mail arrival processing are explained based on the flow chart shown in drawing 9.

[0057]In drawing 9, CPU101 checks first whether the operational mode memorized in RAM102 is "use limit mode" (Step P51), and if it is the "normal mode", It shifts to Step P58, the usual mail arrival operation is performed, and the usual telephone call operation is performed between the partner point telephones in which call receiving was carried out by the communication control part 103.

[0058]If it is "use limit mode", CPU101, the setting detail of the use limitation information 200 memorized by RAM102 is read (Step P52), and each setting detail of the incoming call notice (it is -- /-- nothing) 205, the ringer tone kind 206, and the housesitting sound recording (/it carries out -- don't carry out) 207 is acquired (Step P53). Supposing it is set as "those with an incoming call notice", and a "ringer tone kind:by plater", The alphabetic data or the voice data 204 set up corresponding to the message 202 for mail arrival is read, and it transmits to a partner point telephone by the communication control part 103, and it is notified to a partner point telephone by voice response or a character representation that it is [ mail arrival use ] under restriction (Step P54).

[0059]For example, when the information sender 12 is installed in the train under movement, the user A has got on in this train and the cellular phone 31 of the user B of the addresser area 30 of drawing 1 receives a message, while vibration of vibrator informs the user A of mail arrival -- as the message for mail arrival -- " -- now, since a xx line \*\*\*\* line feeding vehicle is taken, it does not answer in the phone. The next is OO station. " etc. is notified to the cellular phone 31 of the user B of the addresser area 30 of drawing 1, and it is reported clearly that the user A is in the cellular-phone use limited area 10.

[0060]subsequently, CPU101 checking whether the housesitting sound recording (/it carries out -- it does not carry out) 207 is set up for "carrying out housesitting sound recording" (Step P55), and, If it will shift to Step P57 if set up for "not carrying out housesitting sound recording", and set up for "carrying out housesitting sound recording", While the message for timed recording memorized beforehand is read to the memory storage 13 and the communication control part 103 informs the user B, the memory storage 13 is made to record the message of the user B who received (Step P56).

[0061]as the message for timed recording beforehand set up, for example at this time -- " -- since I do housesitting sound recording -- a message -- pleasing -- " -- the user B is notified and the sound recording of a message is demanded from the user B.

[0062]Subsequently, CPU101 checks whether manual release directions of use restrictions have been inputted by the key operation in the input part 108 by the user A (Step P57), If there is no manual release operation, this calling processing will be finished, if manual release operation occurs, restriction of dispatch operation will be canceled, call origination is carried out to the partner point telephone in which the calling request was carried out by the communication control part 103, and the usual telephone call operation is performed (Step P58).

[0063]As mentioned above, in the communications system 1 in this embodiment. It has a function for which the information sender 12 installed in the cellular-phone use limited area 10 transmits the use limitation information which restricts use of a cellular phone to the cellular phone 11 which exists in the area 10, In the cellular phone 11 which received use limitation information, it is automatically set as use limit mode according to the contents of use restriction set as use limitation information from the information sender 12.

[0064]And when a calling request is directed in the cellular phone 11 at the time of use limit mode setting out, The user A is notified of the message which is in the cellular-phone use limited area 10, and contains use manners etc. by the message for dispatch set as use limitation information, When mail arrival is received at the time of use limit mode setting out, the telephone of an origination side is notified clearly that the user A exists use limitation information in the area 10 by the message for mail arrival set as use limitation information.

[0065]Therefore, when the user of a cellular phone exists in the public place used as the

cellular-phone use limited area 10, the communications system which restricts automatically dispatch / arrival function of the user's cellular phone can be constituted, and a portable telephone user's manners can be raised. A portable telephone user's situation can be made to grasp also to the origination-side user who sent to the portable telephone user who exists in the cellular-phone use limited area 10.

[0066]In the cellular phone 11 which received use limitation information. While mail arrival operation is restricted, a ringer tone kind is automatically set as a vibrator function and a power supply is also turned off compulsorily. A housesitting recording function and the troublesomeness of operation in which a user turns off the power supply of a cellular phone himself, switches a ringer tone to a vibrator function, and switches to a telephone answering function before going into a use limited area since it is set up automatically are cancelable.

[0067]Although the above-mentioned embodiment explained the case where this invention was applied to the cellular phone 11 which exists in the cellular-phone use limited area 10, the communications system which can apply this invention is applicable to the personal digital assistant device provided not only with a cellular phone but the portable telephone function etc.

[0068]The setting detail of the use limitation information 200 transmitted to the cellular phone 11 from the information sender 12 into the above-mentioned cellular-phone use limited area 10 can be changed arbitrarily, and the information sender 12 may be used also as a source of information dispatch in specific area. For example, the information sender 12 is installed in a shopping center, and it may be made to disseminate shopping information etc. to a shopper's cellular phone.

[0069]

[Effect of the Invention]While being able to restrict automatically the arrival from the outside to the communication terminal device which exists in a use limited area according to the communications system of the invention according to claim 1, While being able to report automatically that the communication terminal device of the user who received a message exists in a use limited area to the user of the communication terminal device of a sending agency and being able to restrict use of the communication terminal device in a use limited area, the operation burden of users, such as use restriction setting operation, is also mitigable.

[0070]While being able to restrict automatically the calling request from the user to the communication terminal device which exists in a use limited area according to the communications system of the invention according to claim 2, While being able to report automatically that a communication terminal device exists in a use limited area to the user of this communication terminal device and being able to raise the manners of the communication terminal device user in a use limited area, the operation burden of users, such as use restriction setting operation, is also mitigable.

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[Translation done.]